MEADE COUNTY ROAD SAFETY AUDIT REVIEW SEPTEMBER 26, 2002

Audit Team: Cliff Reuer, Traffic & Safety Engineer, SDDOT

Kenny Neville, County Highway Superintendent, Haakon County

Merle Swenson, SDLTAP

Sharon Johnson, Traffic & Safety Engineer, FHWA

County Road 27-C from its junction with SD Highway 34 north to its junction with US Highway 212:

This roadway was classified as a Rural Minor Highway for the purposes of this RSA. This roadway has a gravel surface. The posted speed limit on this roadway is 55 MPH. In 1999 the average daily traffic (ADT) volume ranged from 35 vehicles just south of US 212 to 185 vehicles near the Old Stoneville Road intersection. Just north of SD 34 the ADT was 175 vehicles. The team agreed to use a 15' clear zone dimension. For the purposes of the audit the location information is referenced from the north end of the job (MP 0.00) increasing by miles as one proceeds south. Following are the findings and recommendations of the RSA team:

The following items were identified as areas where immediate safety improvements should be made:

Relocate the northbound stop at the US 212 intersection. This sign belongs to the South Dakota Department of Transportation (SDDOT) and would be their responsibility to relocate upon notification from the County. As one approaches this intersection from the south the stop sign is not readily visible. The stop sign needs to be brought around the radius to the south for better visibility. The intersection warning sign preceding this stop sign needs to be replaced with a STOP AHEAD warning sign (W3-1a).

MP 3.9, 4.3, 5.9 & 6.5 – Cross pipe markers are not warranted at these locations. Remove.

MP 7.7 – At the Sulfur Cut Across Rd., the large double-headed arrow on the east side should be relocated further to the east near the fence line.

MP 7.7 & MP 11.7—The bridge end markers need to be raised so that the bottom of the marker is 3' above the surrounding ground. Those at MP 11.7 need to be replaced. It was suggested that the County look into installing the flexible markers as time and money allow. The delineators into and out of the bridge need some maintenance.

- MP 8.3 The intersection sign just south of Cut Across Rd. needs to be replaced. Add a 55 MPH sign just south of this intersection for southbound traffic.
- MP 8.6 There is a mailbox on the east side and the west side. The supports do not meet standards and therefore, need to be replaced. See attachment A.
- MP 8.7 Replace the machinery crossing sign for northbound traffic.
- MP 9.2 Opal Rd. Intersection The double-headed arrow on the west side needs to be replaced and relocated further to the west towards the fence line. The intersection warning sign for southbound traffic is not needed.
- MP 10.5 The pipe marker on the west side is not needed.
- MP 10.7 The pipe markers are not needed.
- MP 11.1 The pipe marker on the east side is not needed.
- MP 11.4 The pipe markers are not needed.
- MP 12.7 The bridge end markers need to be replaced and installed at a height of 3'. The delineators also need some maintenance. The northwest corner of the bridge is in need of some fill in front of the wing wall. Consideration should be given to cutting off the steel I beam that extends vertically above the wing walls at this location.
- MP 14.3 The southbound curve sign is too low. There should be a 4' clearance from the bottom of the advisory speed plate to the top of the roadway edge.
- MP 14.6 Along both sides of the roadway in this area there were a lot of clumps of sod lying near the roadway's edge and inslope. These do create a hazard and need to be removed.
- MP 14.7 The northbound curve warning sign is too far off of the roadway edge.
- MP 15.0 The northbound curve warning sign is too far off of the roadway edge.
- MP 16.0, 16.2, & 16.4 The existing curve warning signs are on a substandard post arrangement. These signs could be maintained on a single post installation. If a double post installation is desirable, then both posts need to extend up behind the sign.
- MP 16.1 & 16.4 The curve warning signs are too far off of the roadway.

MP 16.4+ - The mailbox for Paul and Dale Young needs either to be replaced or the existing post drilled to make it a breakaway support. See attachment A. . .

MP 17.1 – The curve warning sign is too far off of the roadway.

MP 17.3 – The mailbox support on the west side is substandard and needs to be replaced per attachment A.

MP 17.4 – The curve warning sign is too far off of the roadway.

From MP 17.7 and continuing south to SD 34 the brush areas within the right of way should be removed.

MP 19.6 – Install pipe markers on both sides.

MP 20.8 – At Stoneville a 55 MPH sign is needed for southbound traffic.

MP 20.9 – The mailbox on the east side needs a new breakaway support per attachment A.

MP 21.6 – The approach into the military facility on the east needs maintenance to achieve adequate access to the facility.

At Old Stoneville Road a 55 MPH sign is needed just north of the intersection for northbound traffic. At this same intersection the YIELD sign for westbound traffic is too high. It measured 9' from the bottom of the sign to the edge of the roadway. This distance should be 5'. The Yield sign that is intended for traffic turning right onto County Road 27-C is too far off of the roadway and mounted too low. The 5' clearance needs to be maintained.

MP 22.4 & 22.5 – Remove the pipe markers.

MP 22.9 & MP 22.95 – The existing pedestrian warning sign is improperly installed. The one for southbound traffic was mounted about a 1' above the ground on a steel post. The corresponding pedestrian sign for northbound traffic was lying down but it was noted that it was mounted on an old wheel of some type. The team questioned the need for these signs. There was also a set of cattle crossing signs in this same area. The team did see farm machinery crossing the roadway in this area and suggested consideration be given to removing the pedestrian and cattle crossing signs and properly installing a set of machinery crossing signs with the appropriate advisory speed plates.

MP 22.9 –A yield sign currently controls the intersecting road to the west. Because of a sight problem created by a solid wooden fence on the southwest corner the team recommends that this yield sign be changed to a stop sign.

MP 22.9 & MP 23.1 – There is a 35 MPH speed limit zone posted and the team questioned if it is warranted. Consideration should be given to removing these signs and rescinding the respective county resolution that may exist that establishes this speed limit. The team felt a 35 MPH speed limit might be more appropriate at Stoneville where there is a school.

MP 24.0 – Remove the pipe markers.

MP 25.35 – The curve warning sign on the west side is too low.

MP 24.8 to MP 25.6 – There is a series of curves that are not signed and should be. These curves should be ball banked to check if an advisory speed limit is warranted.

MP 25.5 – Remove the pipe markers.

MP 25.65 – The curve warning sign on the east side is too low.

MP 25.9 – Remove the pipe markers.

The intersection warning sign is too low.

MP 26.0 – Indian Creek Road- The yield sign should be changed to a stop sign because of poor sight distance. The advance intersection warning sign should be changed to a STOP AHEAD warning sign (W3-1a).

MP 26.2 – Remove the pipe markers.

MP 26.5 – Butte Road – The large target arrow on the east side should be moved further east next to the fence.

MP 26.9 – Remove pipe markers.

MP 26.9+ - Remove pipe markers.

MP 27.4 – Consider installing an intersection warning sign for northbound traffic to warn of the hidden driveway to the north.

MP 27.4 – Replace the mailbox support on the east side.

MP 27.6 & 28.0 – Remove pipe markers.

MP 28.8 – Install pipe markers.

MP 29.7 – Remove the pipe markers.

MP 31.5 & 31.7 – Remove pipe markers.

MP 31.8 thru MP 32.3 (Tifft Rd.) – There are a series of curves that do not have any warning signs. These curves warrant signing and should be ball banked to investigate the need for advisory speed plates. The mailbox supports at Tifft Rd. should be replaced with breakaway supports.

MP 33.0 – Remove the CAUTION CHILDREN AT PLAY sign. This is not a recognized sign in the Manual of Uniform Traffic Control Devices (MUTCD).

MP 33.1 – The mailbox support on the east side should be replaced.

MP 33.1 Replace the existing school warning sign with the new strong yellow green sign.

MP 33.2 – Change the intersection warning sign with a STOP AHEAD warning sign

The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:

The team recommends that all trees, large and small, that are within the right of way be removed. In those locations where removal may not be possible, it is recommended that extensive trimming be done to improve the blowing snow problem.

Some spot gravel is warranted from US 212 south to Opal Rd.

All guy wires within the right of way should be shielded with a brightly colored shield to improve their visibility. It is believed that this would be the responsibility of the respective utility company upon notification from the County.

Along some sections of this roadway it was noted that the shoulders needed to be pulled back in.

MP - 22.65 - MP 22.8 - On the west side the fence is located immediately adjacent to the roadway edge. This needs to be relocated back along the right of way line. In order to do this brush and some concrete rubble will need to be removed. The noted concrete rubble was about 13' off of the roadway.

MP 23.6 – On the east side the fence is located immediately adjacent to the roadway edge. This needs to be relocated back along the right of way line or at least outside of the clear zone (15').

MP 23.7 – On the west side of the road there is a large fence corner post. It is right at the 15' clear zone line. It is recommended that this post have a hazard marker put on it.

MP 25.45 – On the east side there is a power pole that needs to be relocated outside of the clear zone.

MP 29.2 – Upper White Owl Road – The yield for westbound traffic is too low. Install an object marker on the power pole that is located within the grassed triangular area. It is located only 13' off of the south leg of the intersection. There is also a cross pipe near this power pole that needs its east end cleaned out and then extended. The mailbox on the east side has a nonstandard support that should be replaced.

MP 30.8 – The west side needs some shaping and cleanup. Upon completion of this the pipe markers could be removed.

.

_